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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,512	08/20/2003	Ahmet Yigit	ABTT-0350/B020660	6587

23361 7590 06/27/2008

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EXAMINER	
NORTON, JENNIFER L	

ART UNIT	PAPER NUMBER
2121	

MAIL DATE	DELIVERY MODE
06/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/644,512	YIGIT ET AL.	
	Examiner	Art Unit	
	JENNIFER L. NORTON	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/20/03 and 9/25/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-21 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2003/0200130 (hereinafter Kall).

4. As per claim 1, Kall discloses a system for visually displaying real-time enterprise status information related to a status of jobs running on machines, comprising:

an application integration platform (i.e. Collaborative Manufacturing Executive Systems) that receives said real-time enterprise status information and analyzes said information to determine at least one key performance indicator (pg. 2, par. [0015], pg. 4, par. [0069] and pg. 4, par. [0074]);

a process control server that receives status information from at least one work center and forwards said status information to said application integration platform (pg. 1, par. [0010], pg. 4, par. [0080] and pg. 5, par. [0082]);

a database (Fig. 3, element 230) containing information related to manufacturing processes performed at said at least one work center (pg. 5, par. [0083]); and

a graphical user interface (pg. 1, par. [0011]) that interfaces with said application integration platform to provide a visual display of said at least one said key performance indicator (pg. 2, par. [0015] and pg. 5, par. [0082]), wherein a said system provides for minimizing the number of tardy jobs running on machines within said at least one work center (pg. 4, par. [0070] and pg. 5, par. [0088]).

5. As per claim 2, Kall teaches discloses jobs are initially scheduled on said machines and wherein said system provides for control of scheduling after jobs are released to the work center shop floor (pg. 1, par. [0005], pgs. 2-3, par. [0017] and pg. 10, par. [0170]-[0172]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of U.S. Patent No. 6,560,501 (hereinafter Walser).

8. As per claim 9, Kall teaches a system for visually displaying real-time enterprise management information, comprising:

an application integration platform (i.e. Collaborative Manufacturing Executive Systems) that receives plural types of data from manufacturing and information systems within an enterprise via a network infrastructure and analyzes said plural types of data in response to user inputs to determine a level of tardiness of jobs running on manufacturing machines (pgs. 2-3, par. [0015] and [0017], pg. 4, par. [0069] and pg. 4, par. [0074]);

a process control server that receives manufacturing data from at least one work center and forwards said manufacturing data to said application integration platform (pg. 1, par. [0010], pg. 4, par. [0080] and pg. 5, par. [0082]);

a database (Fig. 3, element 230) containing information related to manufacturing processes performed at said at least one work center (pg. 5, par. [0083]); and

a user interface that displays the analyzed plural types of data (pg. 1, par. [0011]), one of said plural types of data being job tardiness (pg. 2, par. [0015] and pg. 5, par. [0082]), wherein said at least one work center contains said manufacturing machines (pg. 5, par. [0083]), and communicating data to said process control server (pg. 1, par. [0010], pg. 4, par. [0080] and pg. 5, par. [0082]) .

Kall does not expressly teach a controller that receives sensor data from said machines and communicates said sensor data to said process control server.

Walser teaches a controller that receives sensor data from said machines (col. 4, lines 26-31).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include a controller that receives sensor data from said machines to optimize manufacturing and supply chain planning processes, according to particular need.

9. As per claim 13, Kall teaches as set forth above differing levels of information are provided to different classes of users, said classes of users include managers, engineers, and operators (pg. 6, par. [0098] and pg. 7, par. [0111]).

10. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of U.S. Patent No. 6,278,901 (hereinafter Winner).

11. As per claim 3, Kall does not expressly teach jobs are rescheduled from one machine to another in accordance with an expected completion time.

Winner teaches jobs are rescheduled from one machine to another in accordance with an expected completion time (col. 11, lines 9-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include jobs are rescheduled from one machine to another in accordance with an expected completion

time to simplify the identification of a subset of jobs to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

12. As per claim 4, Kall does not expressly teaches said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines.

Winner teaches said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines (col. 11, lines 9-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

13. Claims 3, 4, 10 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Wasler in further view of Winner.

14. As per claim 10, Kall nor Wasler expressly teach jobs are rescheduled from one machine to another in accordance with an expected completion time, and said expected completion time is determined based on an average completion time for

a set of jobs assigned to said machines plus a total variation for all jobs in said machines.

Winner teaches jobs are rescheduled from one machine to another in accordance with an expected completion time (col. 11, lines 9-34), and said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines (col. 11, lines 9-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view Wasler of to include jobs are rescheduled from one machine to another in accordance with an expected completion time, and said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines (col. 1, lines 33-35).

15. As per claim 14, Kall teaches a method of visually displaying real-time enterprise management information, said method comprising:

obtaining manufacturing data from at least one work center having at least one manufacturing machine (pgs. 2-3, par. [0015] and [0017]), pg. 4, par. [0069] and pg. 4, par. [0074]);

storing said manufacturing data in a database containing information related to

manufacturing processes performed at said at least one work center (pg. 5, par. [0083] and Fig. 3, element 230);

analyzing said manufacturing data to determine jobs (pg. 2, par. [0015] and pg. 5, par. [0082]); and

presenting job status to users in a manner to (pg. 1, par. [0011]).

Kall nor Walser expressly teach analyzing and indicating tardy jobs.

Winner teaches to analyzing tardy jobs (col. 11, lines 9-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser to analyzing tardy jobs to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

16. As per claim 15, Kall teaches initially scheduling jobs on said machines in accordance with a predetermined methodology;

Kall nor Welser expressly teach rescheduling jobs after jobs are released to the work center shop floor to reduce a number of said tardy jobs.

Winner teaches rescheduling jobs after jobs are released to the work center shop floor to reduce a number of said tardy jobs (col. 11, lines 9-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser to teaches rescheduling jobs after jobs are released to the work center shop floor to reduce a number of said tardy jobs to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

17. As per claim 16, Kall nor Welser expressly teach jobs are rescheduled from one machine to another in accordance with an expected completion time.

Winner teaches jobs are rescheduled from one machine to another in accordance with an expected completion time (col. 11, lines 9-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser to include jobs are rescheduled from one machine to another in accordance with an expected completion time to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

18. As per claim 17, Kall nor Welser does not expressly teach said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines.

Winner teaches said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines (col. 11, lines 9-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser to include said expected completion time is determined based on an average completion time for a set of jobs assigned to said machines plus a total variation for all jobs in said machines to provide an acceptable overall value without exceeding the cost threshold (col. 1, lines 33-35).

19. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of U.S. Patent No. 5,231,567 (hereinafter Matoba).

20. As per claim 5, Kall does not expressly teach the system graphically presents scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness.

Matoba teaches to graphically presenting (Fig. 7) scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness (col. 9, lines 43-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include graphically presenting scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness to provide the capability of determining load time and presents results of production schedule adjustment with enhanced accuracy and reliability (col. 4, lines 34-40).

21. As per claim 11, Kall does not expressly teach said system graphically presents scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness.

Matoba teaches said system graphically presents (Fig. 7) scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness (col. 9, lines 43-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include said system graphically presents scheduled jobs for each machine and an expected completion time, wherein said expected completion time includes any tardiness to provide the capability of determining load time and presents results of production schedule adjustment with enhanced accuracy and reliability (col. 4, lines 34-40).

22. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Welser in further view of Matoba.

23. As per claim 18, Kall nor Welser expressly teach to presenting scheduled jobs graphically for each machine, said graphical presentation including an expected completion time, wherein said expected completion time includes any tardiness.

Matoba teaches to presenting scheduled jobs graphically (Fig. 7) for each machine, said graphical presentation including an expected completion time, wherein said expected completion time includes any tardiness (col. 9, lines 43-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser to include presenting scheduled jobs graphically for each machine, said graphical presentation including an expected completion time, wherein said expected completion time includes any tardiness to provide the capability of determining load time and presents results of production schedule adjustment with enhanced accuracy and reliability (col. 4, lines 34-40).

24. Claims 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Matoba in further view of Non-Patent Literature Publication "Minimizing job tardiness using integrated preventive maintenance planning and production scheduling" (hereinafter Cassidy).

25. As per claim 6, Kall nor Matoba expressly teach a maximum number of tardy jobs is defined as: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time.

Cassidy teaches to a maximum number of tardy jobs is defined as: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time (pg. 507, Equation (29)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view Matoba to

include a maximum number of tardy jobs is defined as: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time to provide a method for maximizing the effective use of a machine (pg. 506, section "Integrating production scheduling and PM planning", Introduction).

26. As per claim 7, Kall nor Matoba expressly teach an expected completion time for a set ofjobs is defined by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.mT=Total standard deviation for set of jobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time.

Cassidy teaches to an expected completion time for a set of jobs is defined by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.mT=Total standard deviation for set of jobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time (pg. 507, Equation (25)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Matoba to include an expected completion time for a set of jobs is defined by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.mT=Total standard deviation for set of jobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time to provide a method for maximizing the effective use of a machine (pg. 506, section "Integrating production scheduling and PM planning", Introduction).

27. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Welser in further view of Matoba and Cassidy.

28. As per claim 19, Kall, Welser nor Matoba expressly teach to determining a maximum number of tardy jobs in accordance with: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time.

Cassidy teaches to determining a maximum number of tardy jobs in accordance with: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time (pg. 507, Equation (29))..

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser in further view of Matoba to include a maximum number of tardy jobs in accordance with: Max .times. [d i - E m < 0] i .di-elect cons. K m .times. .di-elect cons. .times. M wherein Em = T c + i = 1 k .times. .times. .mu. i + z .alpha. / 2 .times. .times. .sigma. .times. .times. 1 .times. k and wherein d.sub.i=Due date for job i E.sub.m=Expected completion time of the jobs on machine m M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, .alpha..sigma..sub.i=Standard deviation for a particular job in machine M .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time to provide a method for maximizing the effective use of a machine (pg. 506, section "Integrating production scheduling and PM planning", Introduction).

29. As per claim 20, Kall, Welser nor Matoba expressly teach to determining an expected completion time by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, a .sigma..sub.mT=Total standard deviation

for set ofjobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time.

Cassidy teaches to determining an expected completion time by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, a .sigma..sub.mT=Total standard deviation for set ofjobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time (pg. 507, Equation (25)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall in view of Welser in further view of Matoba to include an expected completion time by: Min j = 1 M .times. [T c + i = 1 k .times. .times. .mu. i + z .alpha. .times. / 2 .times. .sigma. mT] where .sigma..sub.mT=SQRT(.sigma..sub.1+.sigma..sub.2+ . . . +.sigma..sub.n) Where M=Machine set K=Set of jobs scheduled on selected machine z.sub..alpha.=Standard normal distribution coefficient for given risk, a .sigma..sub.mT=Total standard deviation for set ofjobs in machine m .mu..sub.i=Average duration for a particular job in machine M T.sub.c=Current time to

provide a method for maximizing the effective use of a machine (pg. 506, section "Integrating production scheduling and PM planning", Introduction).

30. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Non-Patent Literature Publication "An efficient genetic algorithm for job shop scheduling with tardiness objectives" (hereinafter Mattfeld).

31. As per claim 8, Kall does not expressly teach an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed.

Mattfeld teaches an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed (pgs. 618-619, section "3.2. Benchmark set").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed to provide a method of priority rule-based scheduling resulting in efficient optimization techniques (pg. 629, section "9. Summary")

32. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Non-Patent Literature Publication "An efficient genetic algorithm for job shop scheduling with tardiness objectives" (hereinafter Mattfeld).

33. As per claim 12, Kall does not expressly teach an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed.

Mattfeld teaches an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed (pgs. 618-619, section "3.2. Benchmark set").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include an uncertainty level is assigned based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed to provide a method of priority rule-based scheduling resulting in efficient optimization techniques (pg. 629, section "9. Summary")

34. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kall in view of Walser in further view of Non-Patent Literature Publication "An efficient genetic algorithm for job shop scheduling with tardiness objectives" (hereinafter Mattfeld).

35. As per claim 21, Kall not Walser teaches assigning an uncertainty level based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed.

Mattfeld teaches assigning an uncertainty level based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed (pgs. 618-619, section "3.2. Benchmark set").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Kall to include assigning an uncertainty level based on an expected completion time for jobs, said uncertainty time being a time within which it is expected that a predetermined percentage of said jobs will be completed to provide a method of priority rule-based scheduling resulting in efficient optimization techniques (pg. 629, section "9. Summary")

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER L. NORTON whose telephone number is (571)272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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